DECLARATION

I, NOBUAKI KATO, a Japanese Patent Attorney registered No. 8517, of Okabe International Patent Office at No. 602, Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo, Japan, hereby declare that I have a thorough knowledge of Japanese and English languages, and that the attached pages contain a correct translation into English of the priority documents of Japanese Patent Application No. 2000-358059 filed on November 24, 2000 in the name of CANON KABUSHIKI KAISHA.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made, are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 20th day of December, 2006

NOBUAKI KATO

PATENT OFFICE
JAPANESE GOVERNMENT

This is to certify that the annexed is a true copy of the following application as filed with this office.

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[Title of the Invention] Help Server, Helper Terminal Apparatus, Help System, Control Method for Help System and Storage Medium

[Claim(s)]

[Claim 1] A help server, characterized by:

notice request means for notifying its own communication ability to a user terminal apparatus which inquires; and

communication ability instruction means for instructing the helper terminal apparatus, which responds to the inquiry, to responds to the inquiry in a form suitable for user needs in accordance with the communication ability notified by said user terminal apparatus.

[Claim 2] A help server according to claim 1, wherein said user needs include at least one of a communication fee and information fee.

[Claim 3] A help server according to claim 1 or 2, characterized by:

notice request means for requesting to notify a payable fee and a terminal ability to said user terminal apparatus when an inquiry is made from a user terminal connected via a network;

helper terminal apparatus selection means for

selecting the helper terminal apparatus suitable to respond to the inquiry from said user terminal apparatus; and

session start means for starting a session after connecting the helper terminal apparatus selected by said helper terminal apparatus selection means, and said user terminal apparatus.

[Claim 4] A help server according to any one of claims 1 to 3, characterized by storage means for storing contents of a response of said helper terminal apparatus to the inquiry of said user terminal apparatus, in an answer example database.

[Claim 5] A help server according to claim 4, characterized by:

inquiry contents transmission means for transmitting the inquiry contents of said user terminal apparatus to the helper terminal apparatus selected by said helper terminal apparatus selection means; and

helper terminal apparatus information notice means for notifying an information list of helper terminal apparatuses having a will to replay to the inquiry contents transmitted by said inquiry contents transmission means, to said user terminal apparatus.

[Claim 6] A help server according to claim 4 or 5, characterized by history list notice means for notifying information list of a similar inquiry history for the inquiry contents transmitted by said inquiry

contents transmission means if the answer example database stores such a similar inquiry history.

[Claim 7] A help server according to any one of claims 4 to 6, characterized by fee notice means for notifying an information fee desired by said helper terminal apparatus at the time of replying from the helper.

[Claim 8] A help server according to any one of claims 4 to 7, characterized by communication ability notice order means for making notify a communication ability of the helper terminal at the time of reply from said helper.

[Claim 9] A help system according to any one of claims 4 to 8, characterized by fee collecting means for taking a fee collection procedure to said user terminal apparatus.

[Claim 10] A help system according to any one of claims 4 to 9, characterized by fee payment means for taking a fee payment procedure to said helper terminal apparatus.

[Claim 11] A help server according to any one of claims 4 to 10, characterized by:

keyword extraction means for extracting keywords from an inquiry when the inquiry is received from said user terminal apparatus;

helper terminal apparatus selection means for selecting at least one of the helper terminal

apparatuses suitable for said inquiry from a plurality of helper terminal apparatuses registered beforehand in accordance with the keywords extracted by said keyword extraction means; and

inquiry contents transmission means for transmitting the inquiry of said user terminal apparatus to the helper terminal apparatus selected by said helper terminal apparatus selection means.

[Claim 12] A help server according to claim 11, characterized by helper terminal apparatus information notice means for notifying a list of information of helper terminal apparatuses which responds so as to answer to the inquiry of said user terminal apparatus, to said user terminal apparatus.

[Claim 13] A user terminal apparatus characterized by transmission means for transmitting its own payable fee and terminal ability in accordance with an inquiry of payable fee and terminal ability from a help server.

[Claim 14] A user terminal apparatus according to claim 12, characterized by data transmission and receipt means for conducting a session with a helper terminal apparatus via said help server.

[Claim 15] A help system characterized by the helper terminal apparatus according to any one of claims 1 to 12 and the user terminal apparatus according to claim 13 or 14.

[Claim 16] A control method of the help system, characterized by:

a notice request step of notifying its own communication ability to a user terminal apparatus which inquires; and

a communication ability instruction step of instructing the helper terminal apparatus, which responds to the inquiry, to respond to the inquiry in a form suitable for user needs in accordance with the communication ability notified by said user terminal apparatus.

[Claim 17] A control method of the help system according to claim 16, wherein said user needs include at least one of a communication fee and information fee.

[Claim 18] A control method of the help system according to claim 16 or 17, characterized by:

a notice request notice of requesting to notify a payable fee and a terminal ability to said user terminal apparatus when an inquiry is made from a user terminal connected via a network;

a helper terminal apparatus selection step of selecting the helper terminal apparatus suitable to respond to the inquiry from said user terminal apparatus; and

a session start step of starting a session after connecting the helper terminal apparatus selected in

said helper terminal apparatus selection step and said user terminal apparatus.

[Claim 19] A control method of the help system according to any one of claims 16 to 18, characterized by a storage step of storing contents of a response of said helper terminal apparatus to the inquiry of said user terminal apparatus, in an answer example database.

[Claim 20] A control method of the help system according to claim 19, characterized by:

an inquiry contents transmission step of transmitting the inquiry contents of said user terminal apparatus to the helper terminal apparatus selected in said helper terminal apparatus selection step; and

a helper terminal apparatus information notice step of notifying an information list of helper terminal apparatuses having a will to replay to the inquiry contents transmitted in said inquiry contents transmission step, to said user terminal apparatus.

[Claim 21] A control method of the help system according to claim 19 or 20, characterized by a history list notice step of notifying information list of a similar inquiry history for the inquiry contents transmitted in said inquiry contents transmission step if the answer example database stores such a similar inquiry history.

[Claim 22] A control method of the help system according to any one of claims 19 to 21, characterized

by a fee notice step of notifying an information fee desired in said helper terminal apparatus at the time of replying from the helper.

[Claim 23] A control method of the help system according to any one of claims 19 to 22, characterized by a communication ability notice order step of making notify a communication ability of the helper terminal at the time of reply from said helper.

[Claim 24] A control method of the help system according to any one of claims 19 to 23, characterized by a fee collecting step of taking a fee collection procedure to said user terminal apparatus.

[Claim 25] A control method of the help system according to any one of claims 19 to 24, characterized by a fee payment step of taking a fee payment procedure to said helper terminal apparatus.

[Claim 26] A control method of the help system according to any one of claims 4 to 10, characterized by:

a keyword extraction step of extracting keywords from an inquiry when the inquiry is received from said user terminal apparatus;

a helper terminal apparatus selection step of selecting at least one of the helper terminal apparatuses suitable for said inquiry from a plurality of helper terminal apparatuses registered beforehand in accordance with the keywords extracted in said keyword

extraction step; and

an inquiry contents transmission step of transmitting the inquiry of said user terminal apparatus to the helper terminal apparatus selected in said helper terminal apparatus selection step.

[Claim 27] A control method of the help system according to claim 26, characterized by a helper terminal apparatus information notice step of notifying a list of information of helper terminal apparatuses which responded so as to answer to the inquiry of said user terminal apparatus, to said user terminal apparatus.

[Claim 28] A computer readable storage medium, wherein a program to execute said control method of the help system is recorded.

[Detailed Description of the Invention]

[0001]

[Field of the Invention]

The present invention relates to a help server, a helper terminal apparatus, a help system, a control method of the help system and storage medium. The present invention particularly relates to the help system forming an information network, in which a user asking a question has been registered beforehand, and which connects a user terminal apparatus with a helper terminal apparatus for providing information to the user terminal apparatus, and its control method.

[0002]

[Prior Art]

Recent information processing apparatuses such as personal computers and portable information terminals are becoming more compact, lightweight and inexpensive and many persons can have such apparatuses easily. Developments of the Internet are remarkable and any information can be searched easily via the Internet.

[0003]

In such a case, a search engine is generally used to search desired information. However, if proper keywords for narrowing down the information to be searched are not set, the search engine extracts only unnecessary information. In addition, it often takes a long time to browse all extracted pages, so that accurate information cannot be obtained at once.

[0004]

Therefore, in order to obtain more accurate information speedily, it can be considered to use information research services, such as help system, to ask a person having expert knowledge. The help system shown here is a system like that, for example, an operator or a helper standing by at an inquiry place replies to an inquiry from a user or prepares an answer and sends it back.

[0005]

Furthermore, nowadays, this help system has been

expanded, so that an automatic help system, in which a user asking a question has been registered beforehand, and which forms an information network connecting to a helper providing information, is also proposed.

[0006]

In the overall structure of the automatic help system mentioned above, as shown in Fig. 10, a help server (801'), a plurality of helper terminal apparatuses (802') and a plurality of user terminal apparatuses (803') are interconnected via a network (804') such as the Internet, an intranet, and a public telephone network.

[0007]

This kind of structure eliminates a need where helpers constantly stand by at a place where the help server is installed. For example, it is possible for helpers to directly answer in a home or satellite office at which a helper works or from a portable information terminal apparatus. Therefore, this makes easier to secure helpers essential for operating the help system and makes it possible to provide prompt rely to the user as a result.

[0008]

[Problem to be Solved by the Invention]

Technical innovation of information processing apparatuses is now remarkable, and there are various types of information processing apparatuses and various

connection methods to networks. In such circumstances, there are many communication methods such as a speech fixed telephone, an Internet telephone, a TV telephone, a portable telephone, a portable TV telephone, an e-mail, and a bulletin board or chat via the Internet.

[0009]

In the case of the above-mentioned conventional help system, however, the helper server (801') supports only a specific communication method for sending back an answer in most of the cases. Therefore, this causes the following problem: although a plurality of helpers, who have various communication abilities mentioned above, are ready to answer, the user has no room for selection so that the helper is allocated or the answer of the helper is converted to a specific communication method, and the user therefore cannot select the communication method freely.

[0010]

Suppose, for example, a user who has a TV telephone portable terminal apparatus makes an inquiry in a text transmission format to the above-mentioned help server (801') via the network (804'). The help server checks the inquiry contents, selects the appropriate helper terminal apparatus (802'), and transfers the inquiry contents to the helper terminal apparatus (802').

[0011]

Here, even when this helper had the TV telephone portable terminal apparatus, the same as the user, the above-mentioned help server (801') did not notify such to the user terminal apparatus but only sent answer contents from the helper terminal apparatus (802') to the user via the Internet or using e-mail or the like set by the help system.

[0012]

Some users wish to obtain information only free of cost, whereas some users wish to obtain information even if a high fee is requested. Some helpers wish to widely distribute their knowledge free of cost, whereas some helpers do not make information in public if a fee in compensation for it is not paid.

[0013]

As mentioned above, the conventional inquiry made via the help server (801') has a problem that communication abilities of information equipment cannot be utilized fully. Furthermore, the above-mentioned conventional help server (801') has a problem that although a charging system of communication fee, information fee, and the like is changeable in accordance with these various communication abilities and answer contents, the users and helpers cannot select the charging system randomly so that the helper cannot answer efficiently in a short time in a manner suitable for user needs.

[0014]

In consideration of the problems mentioned above, an object of the present invention is to provide a help system capable of efficiently sending back an answer to an inquiry from a user terminal apparatus in a short time in a manner suitable for user needs.

[0015]

[Means for Solving the Problem]

A help server according to the present invention is characterized by notice request means for notifying its own communication ability to a user terminal apparatus which inquires, and communication ability instruction means for instructing the helper terminal apparatus, which responds to the inquiry, to respond to the inquiry in a form suitable for user needs in accordance with the communication ability notified by the user terminal apparatus.

The present invention is also characterized in that the user needs include at least one of a communication fee and information fee.

The present invention also characterized by notice request means for requesting to notify a payable fee and a terminal ability to the user terminal apparatus when an inquiry is made from a user terminal connected via a network, helper terminal apparatus selection means for selecting the helper terminal apparatus suitable to respond to the inquiry from the user

terminal apparatus, and session start means for starting a session after connecting the helper terminal apparatus selected by the helper terminal apparatus selection means, and the user terminal apparatus.

The present invention is also characterized by storage means for storing contents of a response of the helper terminal apparatus to the inquiry of the user terminal apparatus, in an answer example database.

The present invention is also characterized by inquiry contents transmission means for transmitting the inquiry contents of the user terminal apparatus to the helper terminal apparatus selected by the helper terminal apparatus selection means, and helper terminal apparatus information notice means for notifying an information list of helper terminal apparatuses having a will to replay to the inquiry contents transmitted by the inquiry contents transmission means, to the user terminal apparatus.

The present invention is also characterized by history list notice means for notifying information list of a similar inquiry history for the inquiry contents transmitted by the inquiry contents transmission means if the answer example database stores such a similar inquiry history.

The present invention is also characterized by fee notice means for notifying an information fee desired by the helper terminal apparatus at the time of

replying from the helper.

The present invention is also characterized by communication ability notice order means for making notify a communication ability of the helper terminal at the time of reply from the helper.

The present invention is also characterized by fee collecting means for taking a fee collection procedure to the user terminal apparatus.

The present invention is also characterized by fee payment means for taking a fee payment procedure to the helper terminal apparatus.

The present invention is also characterized by keyword extraction means for extracting keywords from an inquiry when the inquiry is received from the user terminal apparatus, helper terminal apparatus selection means for selecting at least one of the helper terminal apparatuses suitable for the inquiry from a plurality of helper terminal apparatuses registered beforehand in accordance with the keywords extracted by the keyword extraction means, and inquiry contents transmission means for transmitting the inquiry of the user terminal apparatus to the helper terminal apparatus selected by the helper terminal apparatus selection means.

The present invention is also characterized by helper terminal apparatus information notice means for notifying a list of information of helper terminal apparatuses which responds so as to answer to the

inquiry of the user terminal apparatus, to the user terminal apparatus.

The present invention is also characterized by transmission means for transmitting its own payable fee and terminal ability in accordance with an inquiry of payable fee and terminal ability from a help server.

The present invention is also characterized by data transmission and receipt means for conducting a session with a helper terminal apparatus via the help server.

[0016]

A help system according to the present invention is characterized by the helper terminal apparatus mentioned above and the user terminal apparatus mentioned above.

[0017]

A control method of the help system according to the present invention is characterized by a notice request step of notifying its own communication ability to a user terminal apparatus which inquires, and a communication ability instruction step of instructing the helper terminal apparatus, which responds to the inquiry, to respond to the inquiry in a form suitable for user needs in accordance with the communication ability notified by the user terminal apparatus.

A control method of the help system according to the present invention is characterized in that the user

needs include at least one of a communication fee and information fee.

A control method of the help system according to the present invention is characterized by a notice request notice of requesting to notify a payable fee and a terminal ability to the user terminal apparatus when an inquiry is made from a user terminal connected via a network, a helper terminal apparatus selection step of selecting the helper terminal apparatus suitable to respond to the inquiry from the user terminal apparatus, and a session start step of starting a session after connecting the helper terminal apparatus selected in the helper terminal apparatus selection step and the user terminal apparatus.

A control method of the help system according to the present invention is characterized by a storage step of storing contents of a response of the helper terminal apparatus to the inquiry of the user terminal apparatus, in an answer example database.

A control method of the help system according to the present invention is characterized by an inquiry contents transmission step of transmitting the inquiry contents of the user terminal apparatus to the helper terminal apparatus selected in the helper terminal apparatus selection step, and a helper terminal apparatus information notice step of notifying an information list of helper terminal apparatuses having

a will to replay to the inquiry contents transmitted in the inquiry contents transmission step, to the user terminal apparatus.

A control method of the help system according to the present invention is characterized by a history list notice step of notifying information list of a similar inquiry history for the inquiry contents transmitted in the inquiry contents transmission step if the answer example database stores such a similar inquiry history.

A control method of the help system according to the present invention is characterized by a fee notice step of notifying an information fee desired in the helper terminal apparatus at the time of replying from the helper.

A control method of the help system according to the present invention is characterized by a communication ability notice order step of making notify a communication ability of the helper terminal at the time of reply from the helper.

A control method of the help system according to the present invention is characterized by a fee collecting step of taking a fee collection procedure to the user terminal apparatus.

A control method of the help system according to the present invention is characterized by a fee payment step of taking a fee payment procedure to the helper

terminal apparatus.

A control method of the help system according to the present invention is characterized by a keyword extraction step of extracting keywords from an inquiry when the inquiry is received from the user terminal apparatus, a helper terminal apparatus selection step of selecting at least one of the helper terminal apparatuses suitable for the inquiry from a plurality of helper terminal apparatuses registered beforehand in accordance with the keywords extracted in the keyword extraction step, and an inquiry contents transmission step of transmitting the inquiry of the user terminal apparatus to the helper terminal apparatus selected in the helper terminal apparatus selection step.

A control method of the help system according to the present invention is characterized by a helper terminal apparatus information notice step of notifying a list of information of helper terminal apparatuses which responded so as to answer to the inquiry of the user terminal apparatus, to the user terminal apparatus.

[0018]

A storage medium according to the present invention is characterized in that a program to execute the above-mentioned control method in a computer is recorded.

[0019]

[Embodiment(s) Of The Invention]

[Embodiment(s)]

Embodiments of a help server, a helper terminal apparatus, help system, a control method of the help system and storage medium of the invention will be described with reference to the accompanying drawings. In the overall structure of a help system of this embodiment, as shown in Fig. 8, a help server (801), a plurality of helper terminal apparatuses (802) and a plurality of user terminal apparatuses (803) are interconnected via a network (804) such as the Internet, an intranet, and a public telephone network. Although only one help server (801) is shown for the purposes of convenience, a plurality of help servers may be used.

[0020]

The installation place of a plurality of the help terminal apparatuses (802) may be, for example, a home or satellite office at which a helper works or portable information terminal apparatus and so on. The user terminal apparatus (803) may be a PC installed in a home, an office computer, a portable information terminal apparatus or the like.

[0021]

Fig. 1 shows an example of the structure of the help server in the help system of this embodiment.

The help server of this embodiment is constituted

of a central processing unit (hereinafter called a CPU) (102), a main storage device (103) for storing a program for controlling the above-mentioned CPU (102), a network interface (104) for connection to a network (105), such as the Internet, an intranet and a public telephone network, a speech interface (106), an external memory (107) for storing an answer example database, an external memory (108) for storing a helper management database, and the like, respectively connected to a system bus (101).

[0022]

The functions stored in the main storage device (103) include, for example, a speech recognition/synthesis function (103a), a keyword search function (103b), a message editing/transmission function (103c), a fee payment/collection function (103d), a session management function (103e), and the like. The above-mentioned CPU (102) is controlled by using these functions.

[0023]

The network interface (104) performs an interface control such as a communication protocol control for a connection to the network (105) such as the Internet, an intranet and a public telephone network. Although one network (105) is shown for the purposes of convenience, it is assumed that the network interface (104) supports a plurality of communication protocols

and protocol conversion functions.

[0024]

As shown in Fig. 9, the network interface (104) has a plurality of protocol interfaces (906 to 909) for connections to networks such as the Internet (902), an ISDN (903), an IMT 2000 network (904) and a PHS network (905). Each protocol interface is connected to the system bus 101 via a data conversion matching unit 910 for converting each data format into a common format for format matching.

[0025]

In Fig. 9, although specific communication protocols for the help system are shown for the purposes of convenience, the embodiment is not limited only thereto.

[0026]

The speech interface (106) recognizes voices of a user input from an Internet telephone, a fixed telephone, a portable telephone, or the like connected via the network interface (104) and converts the voices into digital data, or synthesizes digital data supplied from CPU (102) controlled by the contents of the main storage device (103).

[0027]

Although the speech interface (106) and network interface (104) are shown separately in Fig. 1, the speech interface (106) may be included in the network

interface (104).

[0028]

The answer example database (107) stores information such as answers in response to past inquiries of the user terminals, and when necessary the answer example database (107) is referred to by a program controlled by the contents of the main storage device 103.

[0029]

As shown in Fig. 2, the helper management database (108) stores, for example, at least keywords (201) which the helper can cover, access information (202) such as telephone numbers and mail addresses for accessing the helper from the help server.

[0030]

Next, with reference to the sequence chart shown in Fig. 3, the operation of the help system of the present invention will be described.

First, an inquiry (301), e.g., "Want to know various information on lodging houses in Rome", is sent from the user terminal apparatus (31) to the help server (32). As the inquiry methods, a speech telephone, an e-mail, a message transmission on the Web via the network 804, such as the Internet, an intranet and a public telephone network, and the like may be used.

[0031]

If an inquiry is made through a speech telephone, the speech interface (106 in Fig. 1) of the help server (32) and a program of the speech recognition/synthesis function (103a in Fig. 1) stored in the main storage device recognize user voices and convert the voices into digital data.

[0032]

In making an inquiry from a user, the user may input (pronounce) the keywords of the inquiry contents directly. The user may input (pronounce) a long sentence by using the keyword extraction function (103b in Fig. 1).

[0033]

The help server (32) which receives the inquiry issues an inquiry (302) to the user terminal apparatus (31), for example, as to a payable fee (an approximate maximum fee payable to the information) and abilities of the terminal apparatus (communication abilities of the terminal apparatus such as data transfer speed, information transfer ability and terminal type), and at the same time, extracts keywords from the inquiry contents of the user by using the keyword extraction function (103b in Fig 1), and searches the helper hitting the extracted keywords (303).

[0034]

In the above example, the keywords of "Rome" (including "Italy"), "lodging", "lodging house"

(including "travel") and the like are extracted.

[0035]

If the example of the helper management table in Fig. 2, a helper (204) having a helper number HN0003 and hitting the keyword "Italy" and a helper (203) having a helper number HN0002 and hitting the keyword "lodging" are selected.

[0036]

Eventually the payable fee and communication abilities are notified from the user terminal apparatus (304). In the case of a speech telephone, a program of the speech recognition/synthesis function (103a in Fig. 1) stored in the main storage device of the help server (32) and the speech interface (106 in Fig. 1) synthesize digital data into a speech and reproduce it to make an inquiry.

[0037]

The inquiry (or notice) for the payable fee and abilities of the terminal apparatus may be omitted or performed at the same time of inquiry. However, as in this embodiment, the user is made to input the payable fee different from the inquiry so that it has an intention to make the user confirm again the will of the inquiry.

[0038]

For example, it is assumed that the user terminal apparatus notifies the information such as "up to about

500 Yen" as the payable fee and "speech / 384 kbps unrestricted digital communication / TV telephone terminal / e-mail" as the abilities of the terminal apparatus.

[0039]

Upon reception of this, the help server (32) forms an inquiry message to be transmitted to the helper terminal apparatuses (305) and then transmits the inquiry message to the applicable helper terminal apparatuses (33 (HN0001), 34 (HN0002) and 35) (306).

[0040]

The message contains the data on the user inquiry contents, abilities of the user terminal apparatus and the payable fee, but not disclose information capable of identifying the user terminal apparatus in order to protect the privacy of the user.

[0041]

The method of transmitting the message may be group transmission or group mailing, or in the case of wireless terminal apparatuses or the like, the above message may be contained in the extended data field of group notice information.

[0042]

In the case of a speech telephone, a program of the speech recognition/synthesis function (103a in Fig. 1) stored in the main storage device of the help server (32) and the speech interface (106 in Fig. 1)

synthesize digital data into a speech and reproduce it.
[0043]

These methods of transmitting may be designated for each helper terminal apparatus and registered. In that case, the message is stored as the information of the helper management table in Fig. 2 (205 in Fig. 2).
[0044]

The help server (32) searches the answer example database (107), and picks up the answer history if the past inquiry similar to the present inquiry exists (307). The help server (32), which receives responses and presentations of desired fees and desired abilities of the terminal apparatus from the helper terminal apparatuses (33 and 34) (308), forms a message to be transmitted to the user terminal apparatus by referring to the contents of the messages and the past answer examples (309) and transmits a list to the user terminal apparatus 831) (310).
[0045]

The list transmitted here contains, for example, as shown in Fig. 4, information (401) on the HN0001 helper terminal apparatus (33), information (402) on the HN0002 helper terminal apparatus (34), and the answer example database information (403) and the like are listed, but does not disclose any information capable of identifying the helper in order to protect the privacy of the helper.

[0046]

In the case of a speech telephone, a program of the speech recognition/synthesis function (103a in Fig. 1) stored in the main storage device of the help server (32) and the speech interface (106 in Fig. 1) synthesize the list into a speech and reproduce it to urge to select a desired helper terminal.

[0047]

When the user terminal apparatus (31) selects the helper terminal apparatus from this list and transmits a request of a session (311), the help server (32) judges whether the helper terminal apparatus selected is a pay information provider.

[0048]

If the helper terminal apparatus is the pay information provider, the help server (32) transmits a fee collection procedure request to the user terminal apparatus (312) to make the user terminal apparatus perform the fee collection procedure (313). For example, when the user selects the information (401) of the HN0001 helper terminal apparatus (33) in Fig.4, since the information fee is 500 Yen, the user terminal apparatus (31) performs the fee collection procedure of 500 Yen (313).

[0049]

Upon reception of this, the help server (32) performs certification of the fee collection of the

user terminal apparatus (314), and notifies the helper terminal apparatus of the session request and fee pay notice (315).

[0050]

If the helper terminal apparatus (33) returns a session response to the help server (316), the help server transfers the session response (317) to the user terminal apparatus (31) and the session starts (318).

[0051]

The session here means that data converted to match the communication ability is transferred between the user terminal apparatus (31) and helper terminal apparatus (33) via the help server (32), and the data is not transferred directly between the user terminal apparatus (31) and helper terminal apparatus (33). Therefore, With the help system of this embodiment, the anonymity of the user and helper can be guaranteed.

[0052]

If the terminal apparatus communication abilities are different between the user terminal apparatus and the helper terminal apparatus, the network interface (104 in Fig. 1 or Fig. 9) converts the communication protocol (e.g., converts the data of the terminal apparatus having high communication abilities to the protocol of the terminal apparatus having low communication abilities) so as to assure consistency of mutual data.

[0053]

After confirming the normal start of the session, the help server (32) performs the fee collection process for the user and fee payment process for the helper (319). These processes may be performed before or after the session.

[0054]

If the user desires to obtain more information during the session, then the help server may perform an additional fee collection process for the user terminal apparatus and an additional fee payment process for the helper terminal apparatus. At the time of the fee collection and fee payment, a portion of the fee may be paid to the help server as a mediator commission.

[0055]

This may be a system where an advertisement fee is collected from an advertiser by transmitting an advertisement banner or message to the user terminal apparatus or helper terminal apparatus before or after or during the session.

[0056]

If there is a helper (e.g., travel agent, etc. in the case of this example) whose object is the business activity, in the helper terminal apparatus group, this may be a system where a registration fee is collected from this helper. The contents of the session are stored in the answer example database (107). If a

similar inquiry is issued thereafter, the answer example is referred to.

[0057]

However, the user terminal apparatus or helper terminal apparatus may reject this before or after the start of the session or after the end of the session. If the session contents are stored in the answer example database (107), an additional fee may be paid to the helper terminal apparatus as an information providing fee.

[0058]

Next, with reference to the flow chart shown in Fig. 5, the operation of the help server of the help system according to the embodiment will be described. A portion of the detailed description is the same as the description of the help system described earlier, so that this portion is omitted.

[0059]

First, suppose an inquiry is sent from a user terminal apparatus to the help server (501). The help server received the inquiry transmits information on the payable fee (e.g., an approximate maximum fee payable to the information) and terminal apparatus abilities (data transfer speed, information transfer ability, terminal apparatus type and communication ability of the terminal apparatus) to the user terminal apparatus (502). At the same time, the help server

extracts keywords from the inquiry contents of the user and by referring to the helper management table (Fig. 2) searches the helper hitting the extracted keywords (S503). Eventually, the help server receives the notice of the payable fee and terminal apparatus abilities from the user terminal apparatus (504).

[0060]

The help server received this forms an inquiry message to be transmitted to the helper terminals apparatus (505) and then transmits to the applicable helper terminal apparatuses (506). The created message does not contain information capable of identifying the user terminal apparatus in order to protect the privacy of the user, although the message contains the data on the user inquiry contents, abilities of the user terminal apparatus and the payable fee.

[0061]

The help server searches the answer example database and picks up the answer history at that time if there is similar inquiry in the past (507). The help server receives responses and presentation of messages of desired fees and desired terminal apparatus abilities from the helper terminal apparatuses (508). By referring to the contents of the messages and the past answer examples, the help server forms a message to transmit to the user terminal apparatus (509) and transmits a list to the user terminal apparatus (510).

[0062]

The list to be transmitted does not contain information capable of identifying the helper terminal apparatus in order to protect the privacy of the helper. After the user terminal apparatus selects the desired helper terminal apparatus from this list (511), the help server judges whether the helper terminal apparatus selected is a pay information provider (512).

[0063]

If the helper terminal apparatus is the pay information provider, the help server transmits a fee collection procedure request to the user terminal apparatus (513) to make the user terminal apparatus perform the fee collection procedure (514). Upon reception of this, the help server performs certification of the fee collection of the user terminal apparatus (515) and notifies the helper terminal apparatus of the session request and fee pay notice (516).

[0064]

At this time, if the helper terminal apparatus returns the session response (517) to the user terminal apparatus, the session response is transferred to the user terminal apparatus (518), and the help server starts the session (520). The session hear means that data converted to match the communication ability is transferred between the user terminal apparatus and

helper terminal apparatus via the help server, and the data is not transferred directly between the user terminal apparatus and helper terminal apparatus.

[0065]

Therefore, the anonymity of the user and helper can be guaranteed. After the help server confirms the normal start of the session, the help server performs the fee collection process of the user and the fee payment process for the helper (519). These processes may be performed before the start of the session or after the end of the session.

[0066]

Next, with reference to the flow chart shown in Fig. 6, the operation of the user terminal apparatus of the help system according to the embodiment will be described. The user terminal apparatus according to the embodiment may be a PC installed in a home, an office computer, a portable information terminal apparatus or the like.

[0067]

A portion of the detailed description is the same as the description of the help system described earlier, so that this portion is omitted. First, a user enters an inquiry from the user terminal apparatus to the help server (601) and sends it (602). As the inquiry methods, a speech telephone, an e-mail, a message transmission on the Web via the network, such

as the Internet, intranet, and a public telephone network and the like may be used.

[0068]

When the user terminal apparatus receives an inquiry as to a payable fee (e.g., an approximate maximum fee payable to the information) and abilities of the terminal apparatus (communication abilities of the terminal apparatus such as data transfer speed, information transfer ability, terminal type and the like) from the help server received this (603), the user enters a desired fee for the inquiry and the like in accordance with the inquiry (604) and transmits them (605). For a communication ability, the user terminal apparatus may notify the help server of ability of its own terminal apparatus automatically or the user may be set it manually.

[0069]

Eventually the user terminal apparatus receives the list of information on helper terminal apparatuses and information on the answer example database from the help server (606). The user selects the desired helper terminal apparatus from this list (607) and transmits a session request (608).

[0070]

The help server judges whether the helper selected is a pay information provider (609). If the helper selected is a pay information provider, a fee

collection procedure request is transmitted from the help server (610), and the user performs the fee collection procedure (611). After the user terminal apparatus receives a session response (612), the session starts (521).

[0071]

Lastly, with reference to the flow chart shown in Fig. 7, the operation of the helper terminal apparatus of the help system according to the embodiment will be described. The installation place of the help terminal apparatus may be, for example, a home or satellite office at which a helper works or portable information terminal apparatus and so on. A portion of the detailed description is the same as the description of the help system described earlier, so that this portion is omitted.

[0072]

First, an inquiry message is transmitted from the help server (701). The inquiry message does not disclose information capable of identifying the user in order to protect the privacy of the user, although the inquiry message contains the information on the user inquiry contents, abilities of the user terminal apparatus and the payable fee.

[0073]

The method of transmitting the message may be group reception or group mailing, or in the case of

wireless terminal apparatuses or the like, the above message may be contained in the extended data field of group notice information. These methods of sending the message may be designated and registered beforehand for each helper terminal apparatus, and in that case stored as the information of the helper management table in Fig. 2 (205 in Fig. 2)

[0074]

If the helper believes that he can answer the inquiry received, the helper enters a response message, desired fee and the like (702) and transmits them (703). Abilities of the helper terminal apparatus are transmitted to the help server after the helper terminal apparatus notifies abilities of its own terminal apparatus automatically or the helper manually sets (703).

[0075]

After that, the operation is branched into two types (700) and the helper selected by the user receives from the help server the session request and fee payment notice (704). The helper not selected by the user receives an inquiry completion notice from the help server (705). This reception of the inquiry completion notice may be omitted.

[0076]

Upon reception of the session request and the fee payment notice (704), the helper confirms the fee

information and the like, and thereafter enters a session response (706) to transmit (707) and enters into the session status (708).

[0077]

Although the embodiment describes specific examples for the purposes of convenience, the invention is not limited only to the above-described embodiment. For example, a desired information processing apparatus may be used as the user terminal apparatus or helper terminal apparatus, and a desired communication method may be used as the communication method for network connection.

[0078]

(Other Embodiments of the Invention)

The invention is also applicable to a system having a plurality of apparatuses (e.g., a host computer, an interface apparatus, a reader, a printer and the like) or to a single apparatus.

[0079]

The scope of the invention contains also the case wherein software program codes realizing the function of each embodiment described above are supplied to a computer (CPU or MPU) of the apparatus or system connected to various devices realizing the embodiment function, and the computer operates the devices in accordance with the stored programs.

[0080]

In this case, the software program codes themselves realize the embodiment function. Therefore, the program codes themselves and means for supplying the program codes, e.g., a storage medium storing the program codes, constitute the present invention. The storage medium for storing such program codes may be a floppy disk, a hard disk, an optical disk, a magneto optical disk, a CD-ROM, a magnetic tape, a nonvolatile memory card, a ROM or the like.

[0081]

It is obvious that the program codes are included in the embodiment of the invention, wherein not only the computer executes the supplied program codes to realize the embodiment function but also the program codes in cooperation with an OS (operating system) running on the computer or with another application or the like realize the embodiment function.

[0082]

It is obvious that the scope of the invention also contains the case wherein the functions of each embodiment can be realized by writing the program codes into a memory of a function expansion board inserted into a computer or of a function expansion unit connected to the computer, and thereafter by executing a portion or the whole of actual processes by a CPU of the function expansion board or function expansion unit.

[0083]

[Effect of the Invention]

As being described so far, the present invention can provide a help system which can send back a response to an inquiry from a user terminal apparatus in a short time, efficiently, and a format satisfying user needs.

Especially, a help system according to the present invention provides an effect that if a plurality of helpers having various communication abilities are ready to answer, the user can select the helper freely and, therefore, communication abilities of information apparatuses can be fully utilized.

Furthermore, in the help system of the present invention, charging systems of communication fee, information fee, and the like can be varied in accordance with these various communication abilities and response contents, and the users and helpers can set or select the charging systems freely. This makes it possible to enhance service performance, increase the number of registered helpers and users, and then increase profitability of the help system.

[Brief Description of the Drawings]

[Fig. 1] A diagram showing the structure of a help server in an embodiment of the present invention.

[Fig. 2] A diagram showing an example of a helper management table in a help server in the embodiment of

the present invention.

[Fig. 3] A sequence chart illustrating the control of a help system in the embodiment of the present invention.

[Fig. 4] A diagram showing a list of answers transmitted to a user terminal apparatus in the embodiment of the present invention.

[Fig. 5] A flow chart illustrating the control of the help server in the embodiment of the present invention.

[Fig. 6] A flow chart illustrating the control of the user terminal apparatus in the embodiment of the present invention.

[Fig. 7] A flow chart illustrating the control of a helper terminal apparatus in the embodiment of the present invention.

[Fig. 8] A diagram showing the overall structure of the help system in the embodiment of the present invention.

[Fig. 9] A diagram showing an example of the structure of the help server of the present invention.

[Fig. 10] A diagram showing the overall structure of a conventional help system.

[Description of Reference Numerals or Symbols]

101 System bus

102 CPU

103 Main storage device

104 Network interface

105 Network

106 Speech interface

107 Answer example database

108 Helper management database

801 Help server

802 Helper terminal apparatus

803 User terminal apparatus

804 Network

104 Network interface

902 Internet

903 ISDN

904 IMT 2000 network

905 PHS network

906 to 909 Protocol interface

910 Data conversion matching unit

101 System bus

[Name of Document] Drawings

[Fig.1]

103: main storage device

103a: speech recognition/synthesis function

103b: keyword search function

103c: message editing/transmission function

103d: fee payment/collection function

103e: session management function

104: network I/F

106: speech I/F

107: answer example DB

108: helper management DB

[Fig.2]

201: keyword

202: access information

205: transmission method

C 言語： C language

パソコン： personal computer

宿泊： lodgment

旅行会社： travel agency

イタリア： Italia

渋谷： Shibuya

温泉： hot spring

電話番号： phone number

メールアドレス： mail address

ページャー： pager

メール： mail

電話： phone

[Fig.3]

31: user terminal

32: help server

ヘルパ端末群： helper terminal group

301: inquiry

302: inquire of payable fee and terminal ability

303: extract keyword and select helper

304: notify payable fee and terminal ability

305: edit message

306: transmit inquiry and payable fee

307: search answer example DB

308: respond, present desired fee, and terminal ability list

309: edit message

310: transmit response result, fee and terminal ability list

311: session request

312: fee collection procedure request

313: fee collection procedure

314: certification

315: session request and payment notification

316: session response

319: helper ① payment

[Fig.4]

メッセージ：message

端末の通信能力：communication ability of terminal

料金： fee

ホテル情報他種あります写真もあります： various hotel information is provided, and photo is also provided

ＴＶ電話にて： by TV phone

先週行って来ました： I went last week.

履歴： history

ＴＶ電話： TV phone

音声電話： voice phone

電子メール： E-mail

無料： free

[Fig.5]

スタート：start

501: receive inquiry

502: transmit inquiry of payable fee and terminal ability

503: extract keyword and select helper

504: receive payable fee and terminal ability

505: edit message

506: transmit inquiry and payable fee

507: search answer example DB

508: receive response, desired fee and terminal ability

509: edit message

510: transmit response result, DB history, fee and

terminal ability list

511: receive session request

512: pay?

無料： free

有料： pay

513: transmit fee collection request

514: receive fee collection response

515: certification process

516: transmit session request (and notice of payment)

517: receive session response

518: transmit session response

519: fee collection and payment process

520: session status

エンド：end

[Fig.6]

601: input inquiry

602: transmit inquiry

603: receive inquiry fo payable fee and terminal ability

604: input desired fee

605: transmit payable fee and terminal ability

606: receive response result, answer example history, fee and terminal ability list

607: input designated terminal

608: transmit session request

609: fee

610: receive fee collection request

611: transmit fee collection response

612: receive session response

613: session status

[Fig.7]

701: receive inquiry and payable fee

702: input response and desired fee

703: transmit response, desired fee, and terminal ability list

704: session request and note of payment received ?

705: receive note of inquiry completion

706: input response

707: transmit session response

708: session status

700: branch

[Fig.8]

801: help server

802A: helper terminal

803: user terminal

[Fig.9]

104: network I/F

902: Internet

903: ISDN

904: IMT200 network

905: PHS network

906: protocol I/F

910: data conversion matching unit

[Fig.10]

801': help server

802': helper terminal

803': user terminal

[Name of the Document] Abstract

[Abstract]

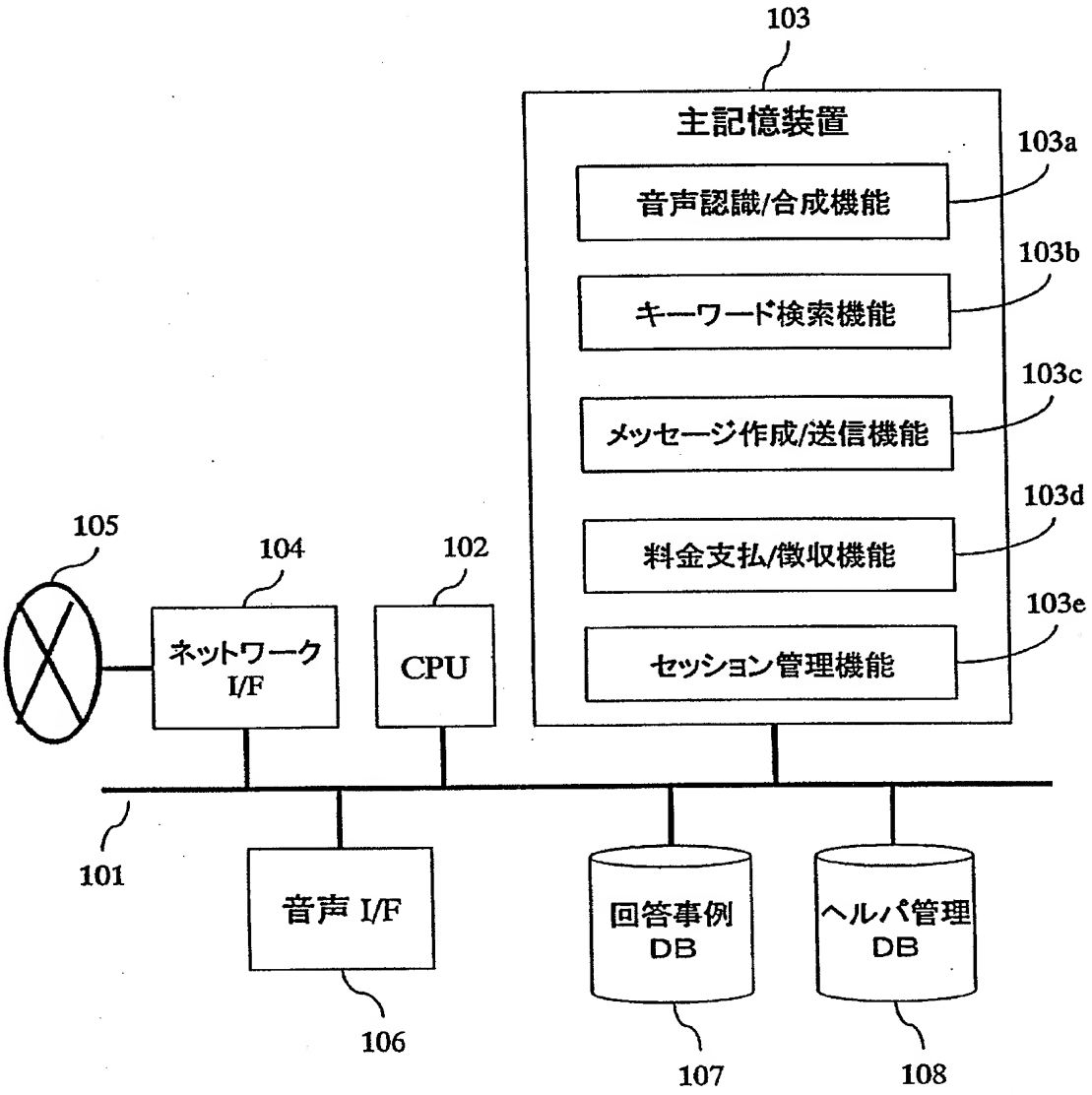
[Problem(s)] It can provide a help system which can send back a response to an inquiry from a user terminal apparatus in a short time, efficiently, and a format satisfying user needs.

[Means for Solving the Problem(s)] A help server comprises notice request means for notifying its own communication ability to a user terminal apparatus which inquires, and communication ability instruction means for instructing the helper terminal apparatus, which responds to the inquiry, to respond to the inquiry in a form suitable for user needs in accordance with the communication ability notified by the user terminal apparatus, thereby being able to select charging systems of communication fee, information fee, and the like in accordance with various communication abilities and reply contents.

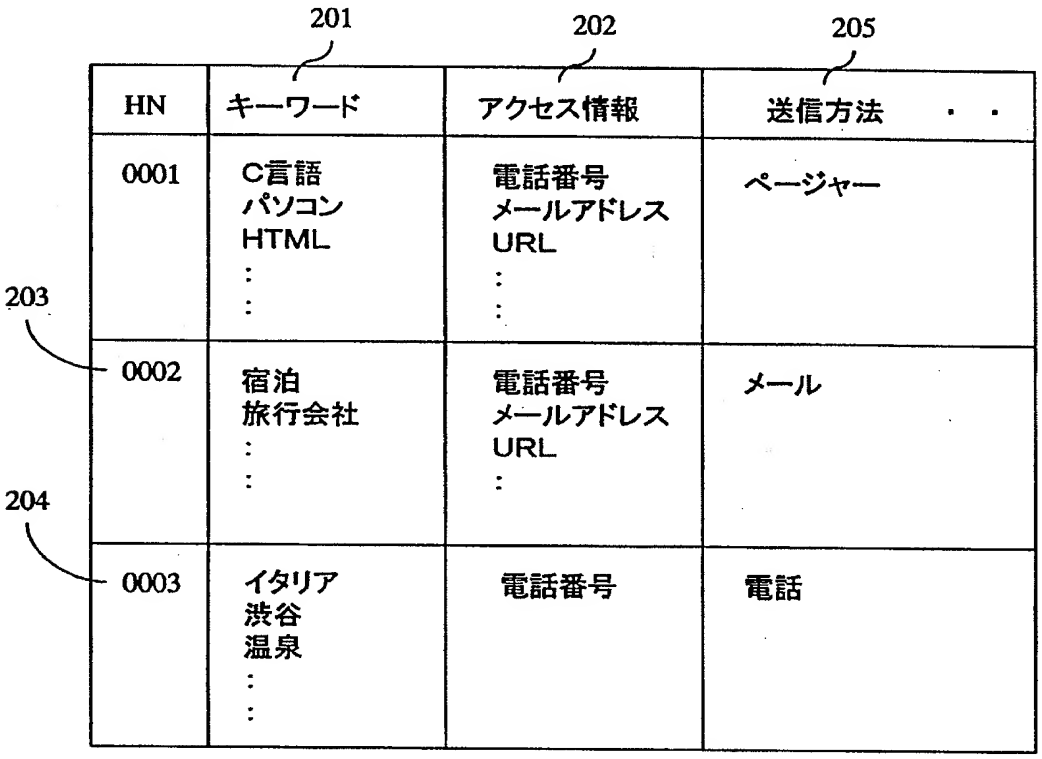
[Elected Drawing] Fig. 1

【書類名】　図面

【図１】


103
主記憶装置
103a
音声認識/合成機能
103b
キーワード検索機能
103c
メッセージ作成/送信機能
103d
料金支払/徴収機能
103e
セッション管理機能
105
104
102
ネットワーク I/F
CPU
101
音声 I/F
106
回答事例 DB
107
ヘルパ管理 DB
108

【図２】



HN	キーワード	アクセス情報	送信方法　・・
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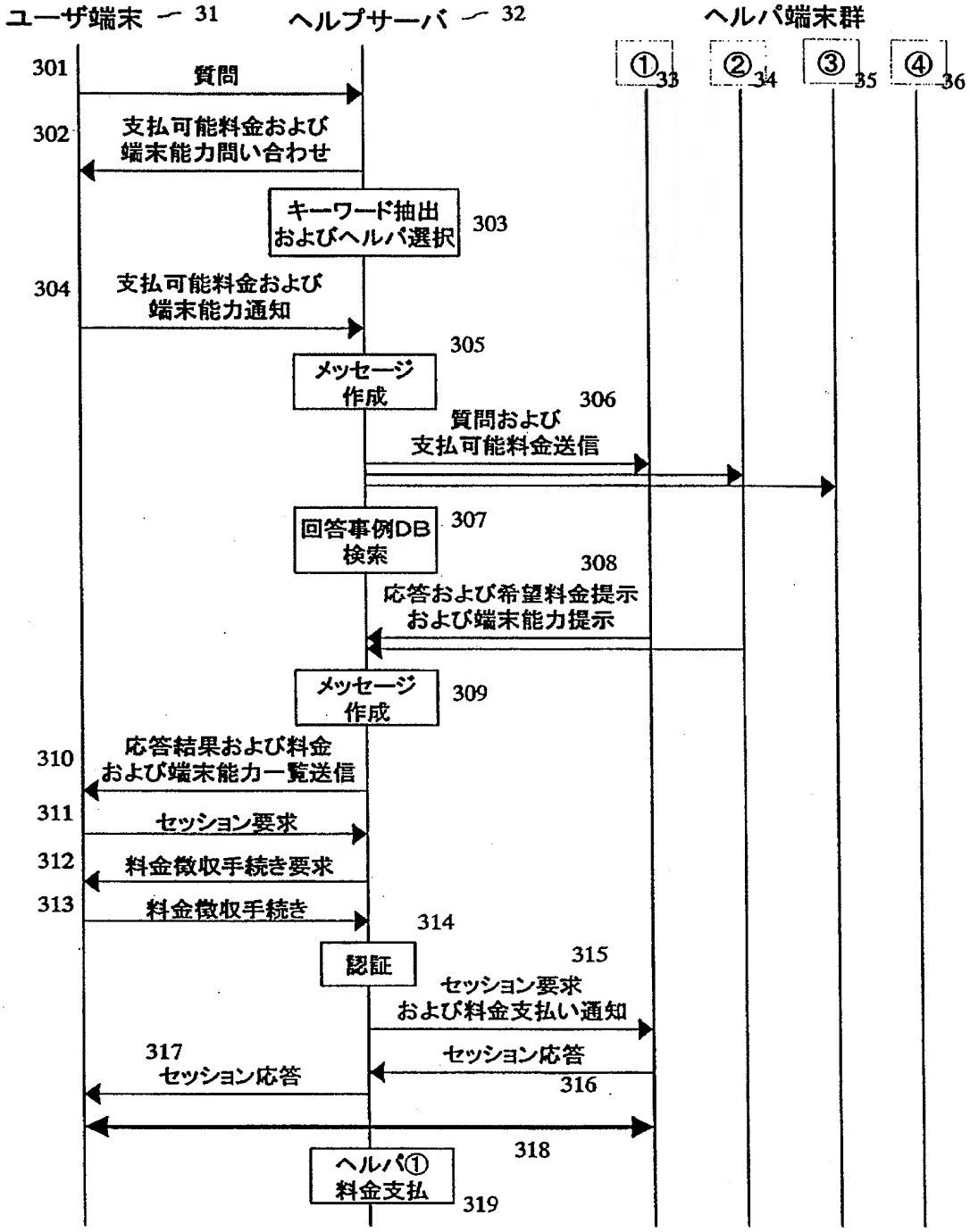
0002	宿泊 旅行会社 : :	電話番号 メールアドレス URL :	メール
0003	イタリア 渋谷 温泉 : :	電話番号	電話

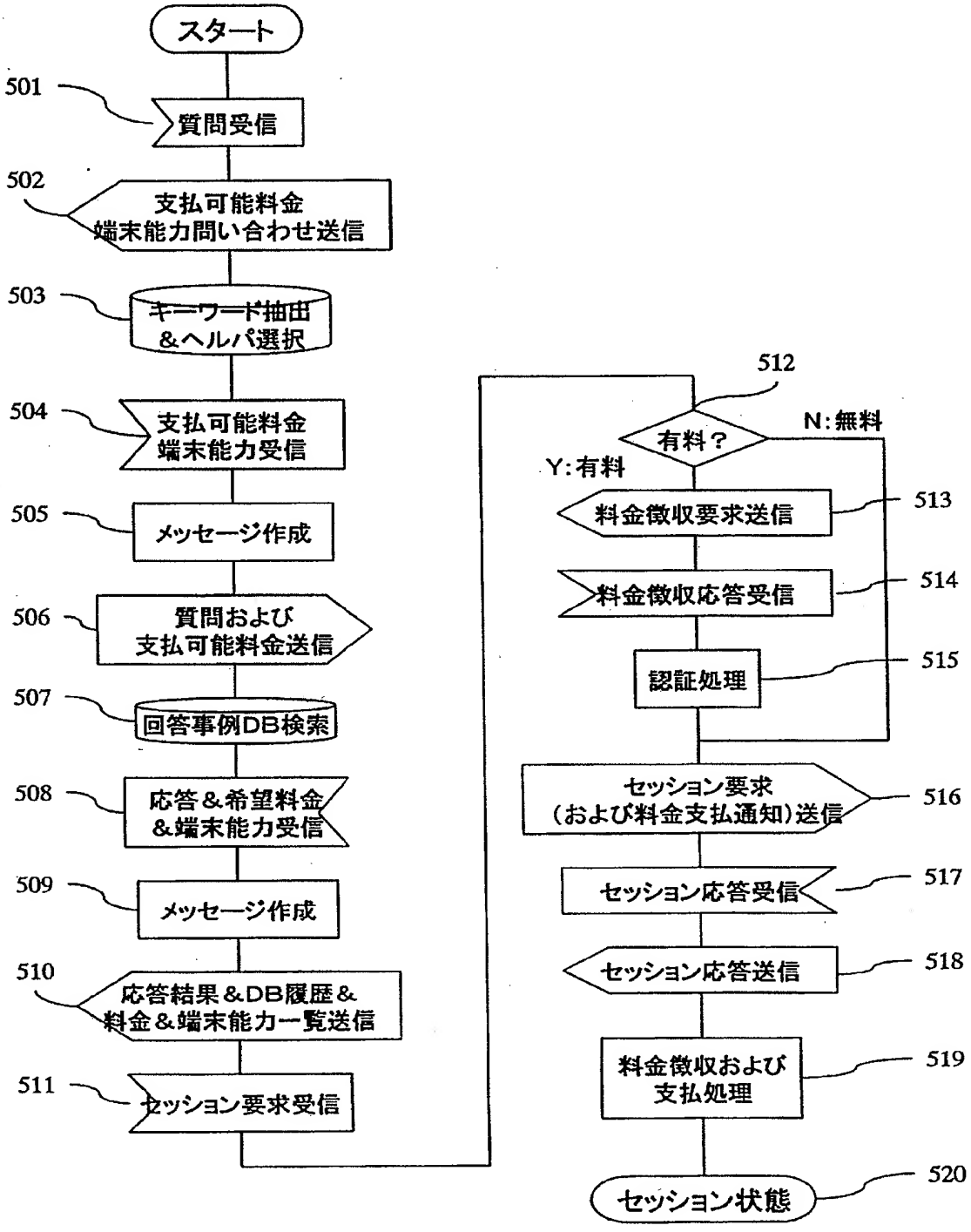
【図３】


ユーザ端末 31
ヘルプサーバ 32
ヘルパ端末群
①33
②34
③35
④36
301
質問
302
支払可能料金および
端末能力問い合わせ
キーワード抽出
およびヘルパ選択
303
304
支払可能料金および
端末能力通知
305
メッセージ
作成
306
質問および
支払可能料金送信
回答事例DB
検索
307
308
応答および希望料金提示
および端末能力提示
メッセージ
作成
309
310
応答結果および料金
および端末能力一覧送信
311
セッション要求
312
料金徴収手続き要求
313
料金徴収手続き
314
認証
315
セッション要求
および料金支払い通知
317
セッション応答
セッション応答
316
318
ヘルパ①
料金支払
319

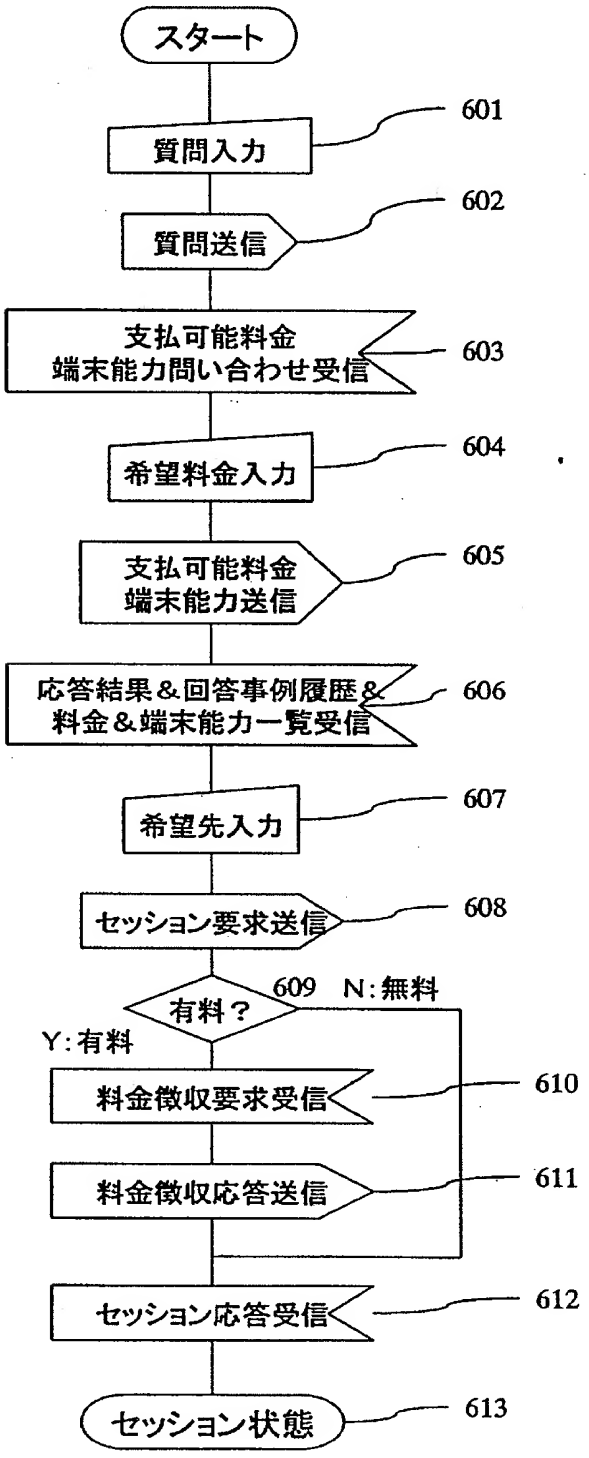
【図４】

	CHK	メッセージ	端末能力	料金
401	□	ホテル情報 多種あります 写真もあります。 TV電話にて 対応可能です。	TV電話 音声電話 電子メール	¥300
402	□	先週 行ってきました。	音声電話	無料
403	□	履歴(2000-03-30)	電子メール	無料

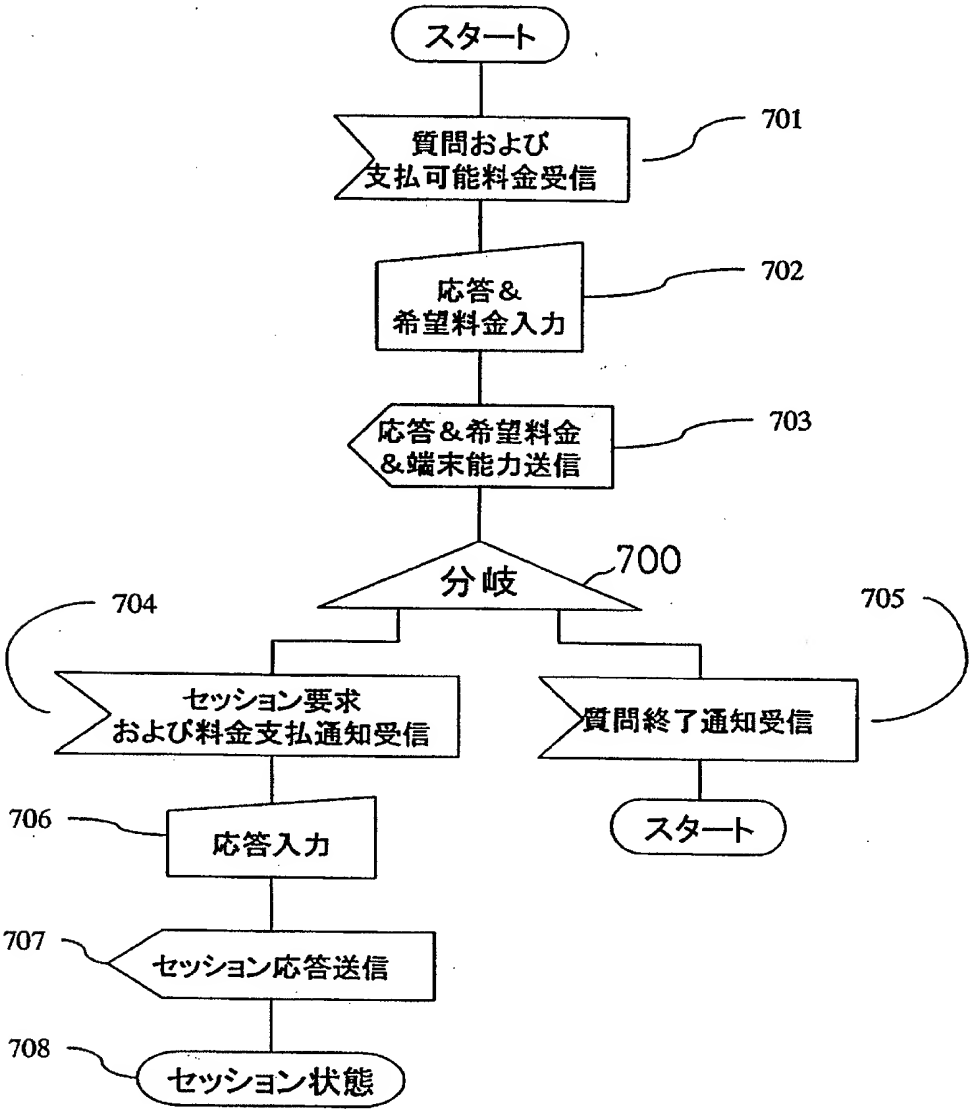
【図５】


スタート
501
質問受信
502
支払可能料金
端末能力問い合わせ送信
503
キーワード抽出
&ヘルパ選択
504
支払可能料金
端末能力受信
505
メッセージ作成
506
質問および
支払可能料金送信
507
回答事例DB検索
508
応答&希望料金
&端末能力受信
509
メッセージ作成
510
応答結果&DB履歴&
料金&端末能力一覧送信
511
セッション要求受信
512
有料？
N:無料
Y:有料
513
料金徴収要求送信
514
料金徴収応答受信
515
認証処理
516
セッション要求
(および料金支払通知)送信
517
セッション応答受信
518
セッション応答送信
519
料金徴収および
支払処理
520
セッション状態

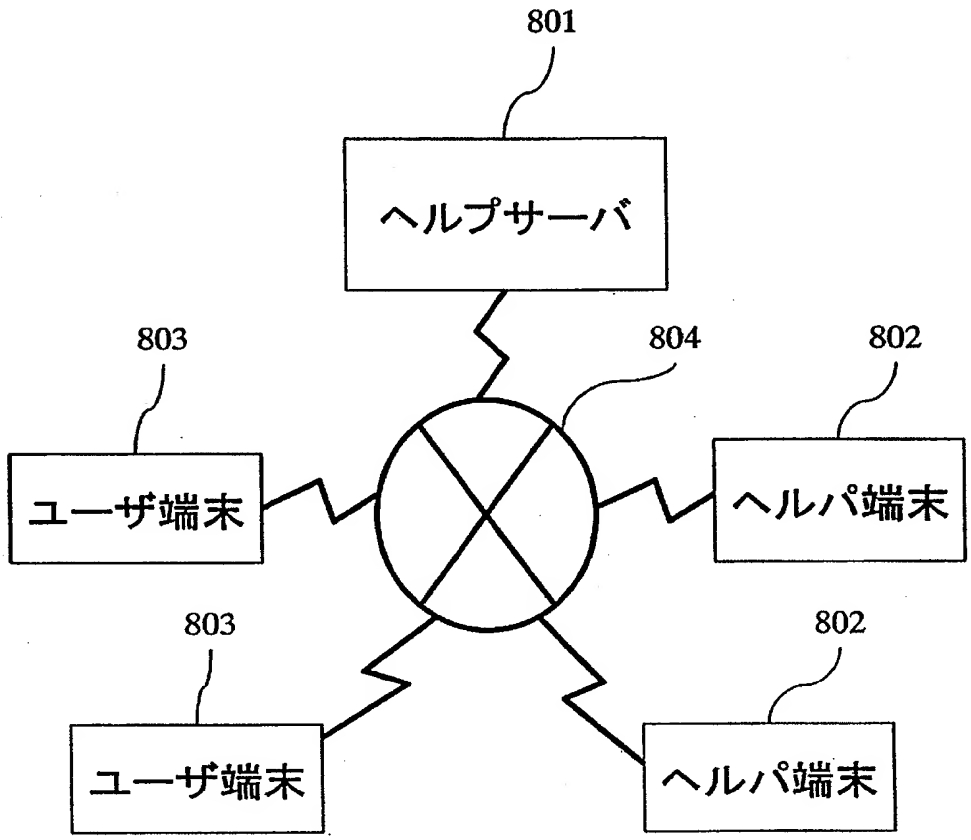
【図６】


スタート
601
質問入力
602
質問送信
支払可能料金
端末能力問い合わせ受信
603
604
希望料金入力
支払可能料金
端末能力送信
605
応答結果＆回答事例履歴＆
料金＆端末能力一覧受信
606
607
希望先入力
セッション要求送信
608
609
有料？
N:無料
Y:有料
料金徴収要求受信
610
料金徴収応答送信
611
セッション応答受信
612
セッション状態
613

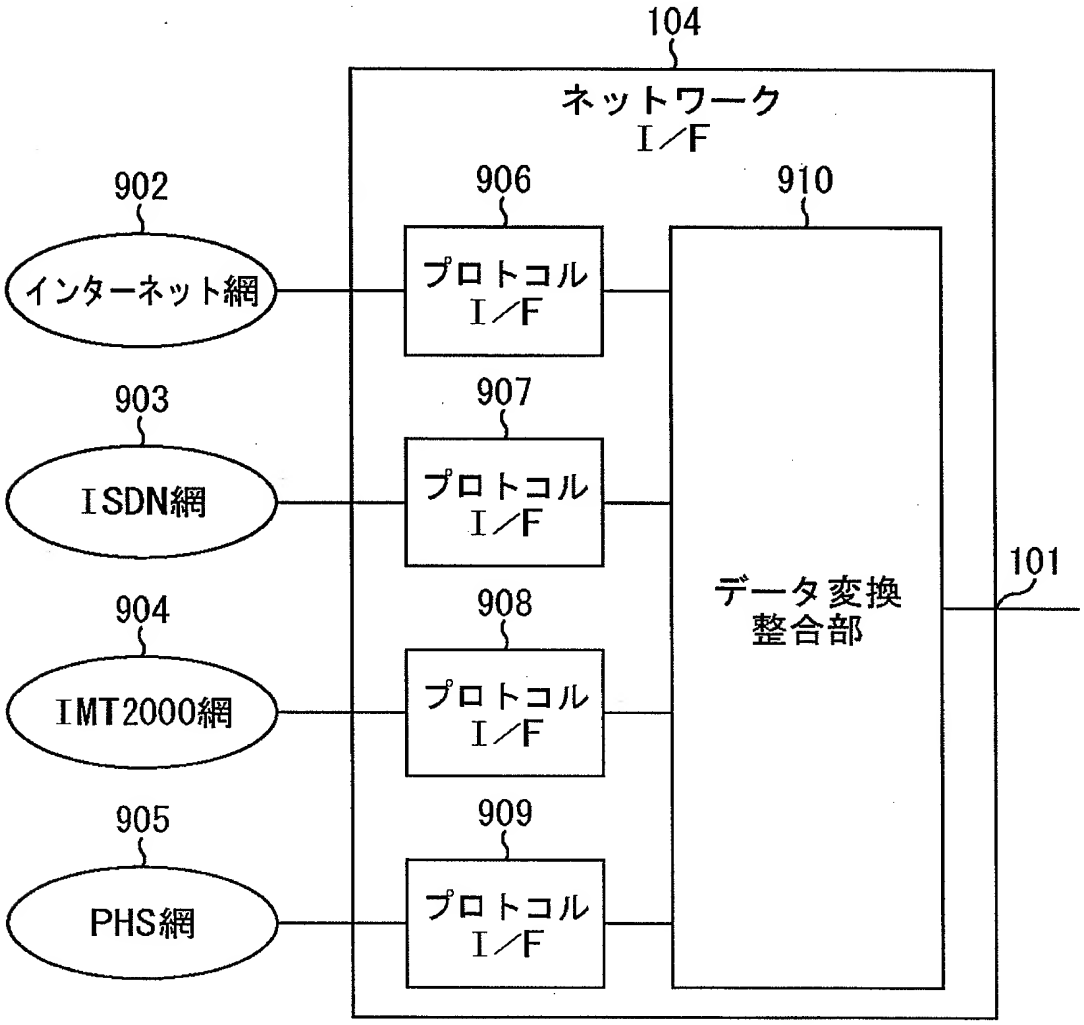
【図７】


スタート
質問および
支払可能料金受信
701
応答＆
希望料金入力
702
応答＆希望料金
＆端末能力送信
703
分岐
700
704
705
セッション要求
および料金支払通知受信
質問終了通知受信
706
応答入力
スタート
707
セッション応答送信
708
セッション状態

【図８】



【図９】


104
ネットワーク
I／F
902
インターネット網
903
ISDN網
904
IMT2000網
905
PHS網
906
プロトコル
I／F
907
プロトコル
I／F
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プロトコル
I／F
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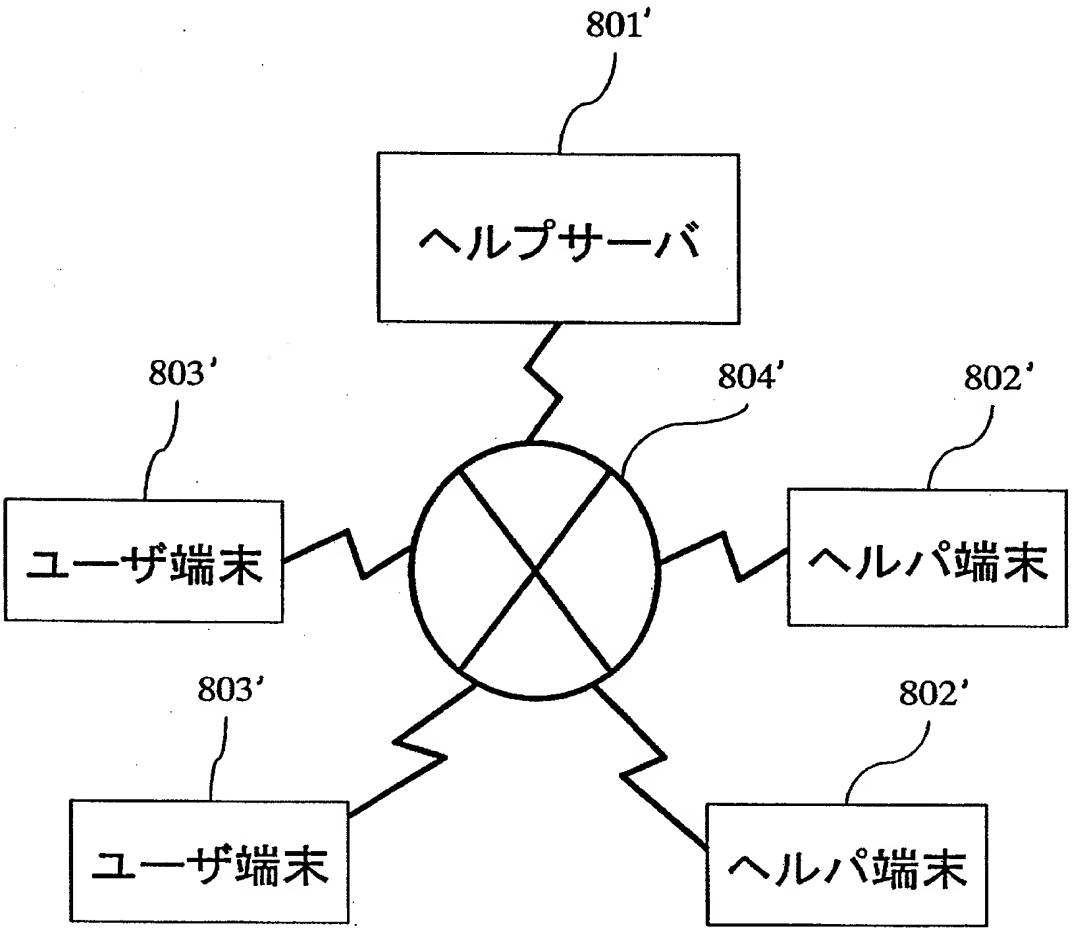
プロトコル
I／F
910
データ変換
整合部
101

【図１０】